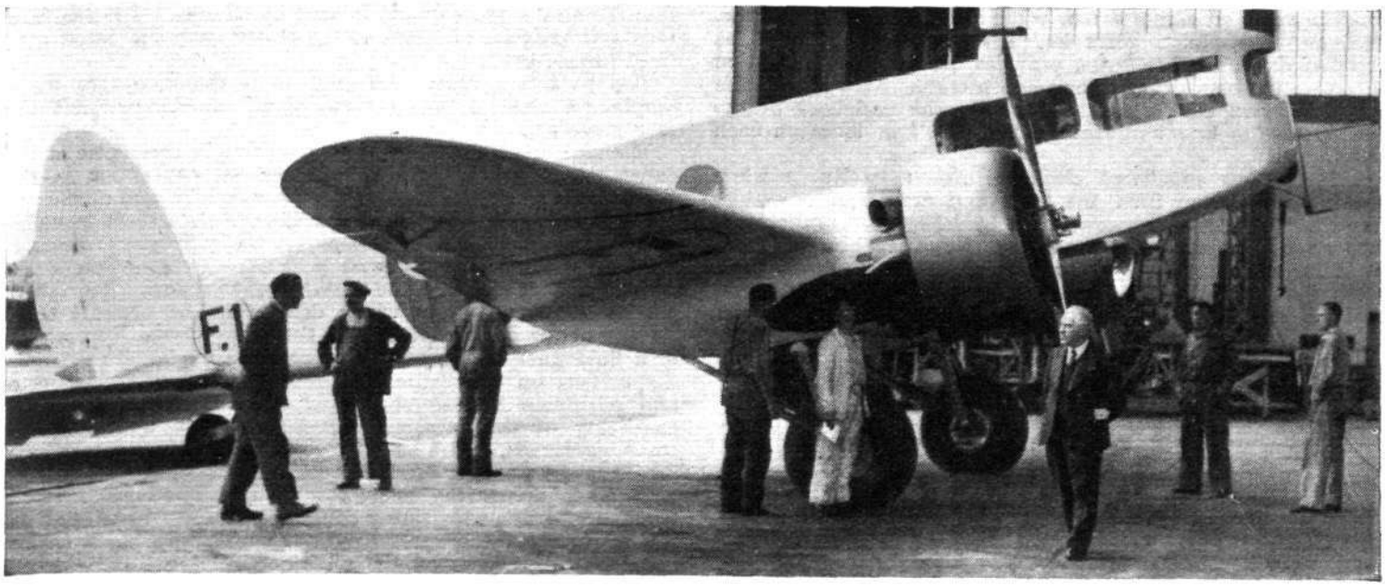

The Air-Couzinet 10 is a possible starter. It has a pair of Hispano-built Wright Cyclones with constant-speed airscrews. The pilot will be Dubourdieu.

(known in France as L'Air Couzinet 10) will appear at Istres, although it has done very little flying. It is reported that during an early flight the needle of the A.S.I. went hard against the stop at 223 m.p.h.—a figure which should be exceeded by a substantial margin. The Hamilton-Hispano constant-speed airscrews caused a certain amount of bother.

The engines of the Couzinet are two Hispano-Suiza 9V's, which are direct-drive Wright Cyclones built under licence.

The Four-engined Bloch

The big four-engined Marcel Bloch 160, which mounts four 690 h.p. Hispano-Suiza 12X medium-supercharged engines, has finished its tests. A maximum speed of 220 m.p.h. was recorded at 9,180ft. Other figures are: Weight empty 18,739lb., weight loaded 30,864lb., range with twenty passengers 1,243 miles. It is claimed that the machine will fly with two engines on one side out of action.

The crew for the Damascus Race will be composed of Lt.-Col. Francois, Capt. Laurent, and under-officers Faure, Joly and Becher. The Bloch machine planned originally for the trans-Atlantic Race is said to be taking shape rapidly. With supercharged engines this model, designated the Bloch 162, should have a speed of 250 m.p.h. and a range of nearly 5,000 miles. In other words, it is France's Albatross.

The Italians have made a survey of the course in one of their formidable Savoia Marchetti S.79s. Their race team will be composed of three of these machines, which have Pegasus engines built under licence by Alfa Romeo.

The S.79 is produced in civil and military forms and has carried off a number of records for speed with load over fairly long distances. A maximum speed of 267 m.p.h. is claimed, the stated cruising speed being 233 m.p.h. at thirteen thousand-odd feet. The machine used to survey the course was a civil type, so supposedly this will be the model chosen for the race.

Captain Alex. Papana will not fly the triple-engined Bellanca as originally reported.

The American Mattern certainly will not fly his Electra in the race, having gone north in search of Levanevsky, the Russian who once rescued him from the frozen wastes and has now lost himself.

Dick Merrill is said to be competing with his trans-Atlantic Electra which was prepared for long-distance flying by the Seversky concern.

Apparently the big four-engined Farman will not show up, which is a pity in view of the fact that a similar machine will be used for trans-Atlantic experiments.

OUR NEWEST TWO-ROW RADIAL

The Two-speed-supercharged Siddeley Tiger VIII : High Outputs Over Wide Altitude Range

SPECIFIED for installation in the second and third marks for the Armstrong-Whitworth-Whitley heavy bomber and earmarked for a number of prototypes, the Armstrong Siddeley Tiger VIII fourteen-cylinder two-row radial has the distinction of being the first engine with two-speed blower in large-scale production. Since Mr. D. L. Prior, head of Siddeley's experimental department, contributed his article on two-speed blowers (*Flight*, July 29), it has become permissible to describe the engine in detail.

The Tiger VIII has fourteen cylinders arranged round the crankcase in two rows of seven. Its two-speed supercharger is enclosed in the induction case, and the engine is designed for use with a V.P. airscrew. Four main components go to make up the engine assembly, these being the front cover, the crankcase, the induction case and the rear cover.

The front cover houses an epicyclic reduction gear, consisting of a two-piece internal gear (the hub and the gear are bolted together) a satellite carrier with ten satellite gears mounted on white metal bearings, and a floating sun gear. The airscrew shaft bears the satellite gear carrier, and the airscrew shaft thrust race is fitted in a steel housing pressed into the front cover, while the thrust cover houses a seal to prevent oil leaks.

At the top of the front cover is the oil valve governing the variable-pitch airscrew, which is operated by oil pressure generated by the engine oil pressure pump.

The crankcase houses a one-piece, two-throw crankshaft, the two master and the twelve auxiliary rods. The master rods work on the two crankshaft throws, and the assembly of the crankshaft, connecting rods and pistons is balanced by two steel lead-loaded balance weights bolted to the crankshaft webs diametrically opposite the crankpins. The crankshaft revolves in two roller bearings, one located in the front face of the crankcase and the other in the diaphragm plate which separates the crankcase from the induction case.

A timing gear keyed to the crankshaft drives a train of